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NEWSLETTER OF THE LONDON CHAPTER,
ONTARIO ARCHAEOLOGICAL SOCIETY
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Fall 1997

97-7

A BRAVE NEW WORLD?
CURRENT TRENDS AND FUTURE DIRECTIONS IN ONTARIO ARCHAEOLOGY

NEAL FERRIS
ONTARIO MINISTRY OF CITIZENSHIP, CULTURE AND RECREATION

Thursday, January 8th, 1998, 8 PM
London Museum of Archaeology

For our January speaker night we are pleased to present Neal Ferris of the Ontario Ministry of Citizenship, Culture and Recreation, Heritage Planning Branch. Neal will give us an insider's perspective on the state of archaeology in Ontario. The meeting will be held at **THE LONDON MUSEUM OF ARCHAEOLOGY**, 1600 Attawandaron Road (near the corner of Wonderland and Fanshawe Park Road in the northwest end of the city) at 8 PM.

* * *

PLEASE NOTE: 1998 MEMBERSHIP FEES ARE NOW DUE!!

The February meeting will be our annual member's night. The lineup so far includes Chris Ellis speaking about a recently excavated Paleo-Indian site and Harri Mattila on his adventures in the western Arctic. We would like to involve as many members as possible, so if you have a project that you would like to give a short (10-15 minute) talk on, give Chris Ellis a call at the number listed below. The meeting will be Thursday, February 12, 1998, 8:00 PM at the London Museum of Archaeology.

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ANNUAL RATES

Individual........	$15.00
Family............	$18.00
Institutional.....	$21.00
Subscriber......	$17.00

EXECUTIVE REPORT

We are pleased to report that the London Chapter executive for 1998 will consist of Chris Ellis (President), Neal Ferris (Vice-President), Karen Mattila (Secretary), Harri Mattila (Treasurer), and Christine Nelson (Director). These positions were acclaimed at the business meeting held during the London Chapter Christmas party on December 12th. Elections were not necessary as only one nomination was received for each position. As mentioned in our last issue, Bev Morrison and Len Fluhrer have stepped down from their Executive positions as President and Director, respectively. We extend our sincere thanks to Bev and Len for all their work over the years.

We are also happy to report that Christine Nelson has agreed to sit on the Local Advisory Committee on Heritage (LACH) for another term as the representative of the Anthropology/Archaeology community.

Our newest publication, ***The Adder Orchard Site: Lithic Technology and Spatial Organization in the Broadpoint Late Archaic***, by Jacqueline Fisher, is selling briskly. Contact the Chapter office to order your copy at the very reasonable price of $15.00 (plus $5.00 for shipping and handling). In a related vein, Neal Ferris reports that he spent the holidays editing the Myer's Road site report. (Who says archaeologists don't know how to have a good time!) This means that the London Chapter should have yet another publication available very soon!

SOCIAL REPORT

The London Chapter Christmas Party was held at the Timmins home on December 12th and was well attended by several folks from the local archaeological community. We hope that everyone had a good time, but we assume no responsibility for any repercussions related to over-consumption of the eggnog!

EDITOR'S REPORT

This month we are pleased to present an article contributed by Jim Wilson, Brent Wimmer and Arthur Figura describing recent excavations by Mayer Heritage Consultants Inc. at the Cherry Hill site, a small Early Archaic camp located on the Niagara Peninsula. This article provides new data on the technology and settlement systems of the poorly understood Kirk Corner-Notched Horizon. The interesting stratigraphic situation documented at Cherry Hill also provides useful information on site and soil formation processes that may be observed on other sites of similar age in similar ecological settings. In particular, the article demonstrates the danger of confusing soil horizons with stratigraphic layers and shows what we may miss if we follow the practice of "stopping at the subsoil" when dealing with sites of this age in southern Ontario.

Cherry Hill:
A Kirk Corner-Notched Site at Fonthill, Ontario

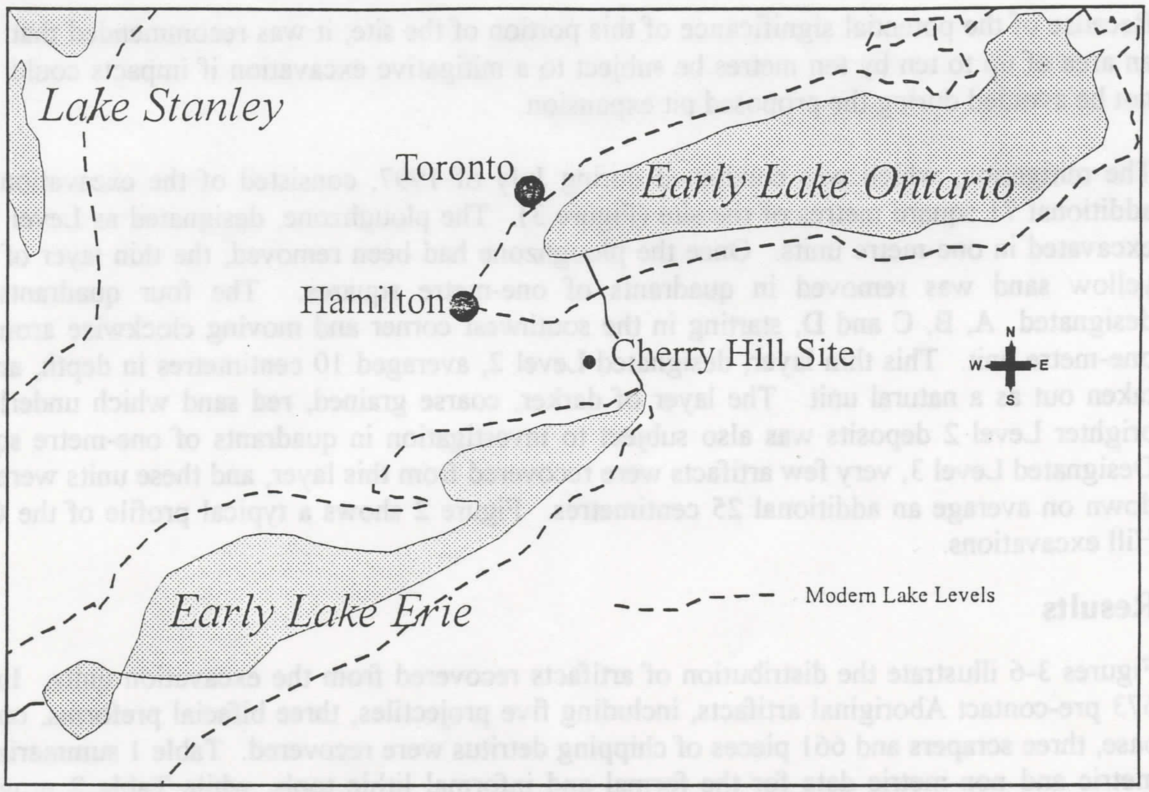
Jim Wilson, Brent Wimmer and Arthur Figura

The Cherry Hill site (AgGt-91) was discovered during a routine archaeological assessment of a proposed gravel pit expansion during October, 1996. The site is located within a mature cherry orchard on a broad level expanse atop the glacial kame deposit just west of the present day community of Fonthill (Figure 1). At 825 feet above sea level, this is the highest ground on the Niagara Peninsula.

At the time that site was discovered, eight positive test pits, each containing a single piece of chipping detritus, were found extending over an area measuring 30 metres north/south by 50 metres east/west (Mayer Heritage Consultants Inc. 1996:10). Subsequent excavation of 35 test units (each one metre square) resulted in the delineation of an approximate ten by ten metre area in the northwest corner of the site which had an elevated artifact recovery rate. In a preliminary report we suggested that:

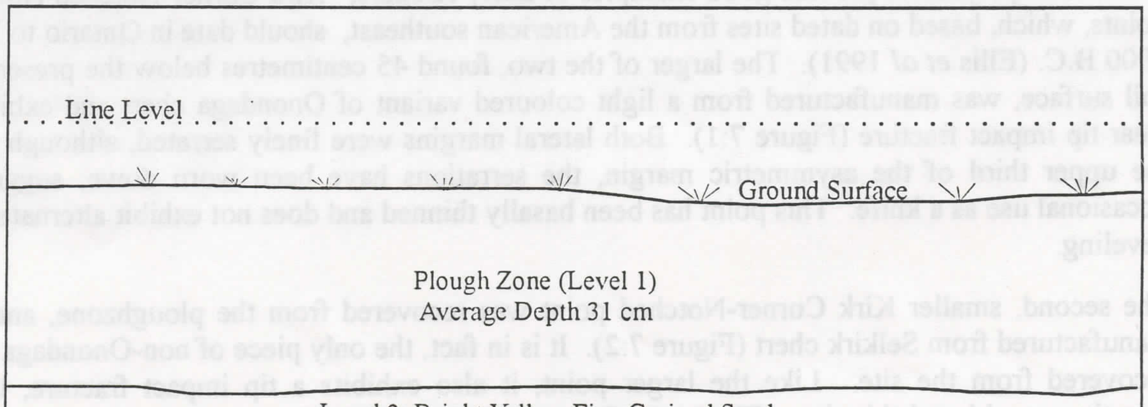
> The cultural material recovered from this area consists almost exclusively of biface thinning flakes from the late stages of manufacture of extremely well crafted, thin, flat, tools....Significantly, numerous pieces of chipping detritus, utilized flakes and an end scraper, were excavated from the subsoil – well below any ploughzone disturbance. Because no visible indications (i.e., mottled soil, staining, etc.) of subsurface cultural features were observed, it is possible that so called "invisible" features might be present. Invisible pit features occur, usually on very early sites, where any organic material which may have originally been in the pit feature has leached out over time, rendering it virtually impossible to visually detect. The extremely sandy soils of the study area would have been especially conducive to leaching.
>
> A second hypothesis is that the subsoil artifacts may originate from a capped living floor. This hypothesis is supported by the fact that in the area of highest flake recovery, there is a distinct yellow subsoil strata (approximately 10 centimeters) overlying a darker, coarse grained subsoil commonly encountered first over most of the site area. While several flakes were recovered from as deep as 55 centimetres below ground level, the vast majority were recovered from this thin strata of yellow soil. It is also possible that a combination of these two hypothesis may account for the subsoil artifacts, with both a capped living floor and hidden features present.
>
> (Mayer Heritage Consultants Inc. 1996:12)

Figure 1: Lake Levels During the Early Archaic



Following Karrow and Warner 1990:19

Figure 2: Typical Profile of the Cherry Hill Excavations


Line Level
Ground Surface
Plough Zone (Level 1)
Average Depth 31 cm
Level 2, Bright Yellow Fine Grained Sand
Average Depth 10 cm
Level 3, Dark Brown/Red Coarse Grained Sand
Excavated to an Average Depth of 25 cm
Bottom of Excavation

Because of the potential significance of this portion of the site, it was recommended that an area of up to ten by ten metres be subject to a mitigative excavation if impacts could not be avoided during the proposed pit expansion.

The mitigation, which was conducted during July of 1997, consisted of the excavation of an additional 71 square metres of the site (Figure 3). The ploughzone, designated as Level 1, was excavated in one-metre units. Once the ploughzone had been removed, the thin layer of bright yellow sand was removed in quadrants of one-metre squares. The four quadrants were designated A, B, C and D, starting in the southwest corner and moving clockwise around the one-metre unit. This thin layer, designated Level 2, averaged 10 centimetres in depth, and was taken out as a natural unit. The layer of darker, coarse grained, red sand which underlay the brighter Level 2 deposits was also subject to investigation in quadrants of one-metre squares. Designated Level 3, very few artifacts were recovered from this layer, and these units were taken down on average an additional 25 centimetres. Figure 2 shows a typical profile of the Cherry Hill excavations.

Results

Figures 3-6 illustrate the distribution of artifacts recovered from the excavation units. In total, 673 pre-contact Aboriginal artifacts, including five projectiles, three bifacial preforms, one drill base, three scrapers and 661 pieces of chipping detritus were recovered. Table 1 summarizes the metric and non-metric data for the formal and informal lithic tools, while Table 2 provides a summary of the analysis of the chipping detritus.

Projectiles

Two of the projectiles provide good examples of Early Archaic, "Kirk Corner-Notched Horizon" points, which, based on dated sites from the American southeast, should date in Ontario to 7500-6900 B.C. (Ellis *et al* 1991). The larger of the two, found 45 centimetres below the present day soil surface, was manufactured from a light coloured variant of Onondaga chert and exhibits a clear tip impact fracture (Figure 7:1). Both lateral margins were finely serrated, although along the upper third of the asymmetric margin, the serrations have been worn down, suggesting occasional use as a knife. This point has been basally thinned and does not exhibit alternate edge beveling.

The second, smaller Kirk Corner-Notched point was recovered from the ploughzone, and was manufactured from Selkirk chert (Figure 7:2). It is in fact, the only piece of non-Onondaga chert recovered from the site. Like the larger point, it also exhibits a tip impact fracture, lateral serrations, and basal thinning. The base of a possible third Kirk Corner-Notched point, broken below the notches, was recovered from Level 2. It is identical in size and shape to the base of the smaller more complete point.

The remaining two projectiles are "Lamoka" points, a late Archaic "Narrow Point" type which dates throughout the northeast to 2500-1800 B.C. (Figure 7:3-4). The smaller of these two projectiles was found in the ploughzone, while the larger, more complete specimen was collected from the very top of Level 2, at the ploughzone/subsoil interface. These two Lamoka points were found 1.5 meters apart three metres to the northwest of the main concentration of chipping detritus and Early Archaic diagnostic materials.

Bifaces

Five bifacial preform fragments were recovered, four of which could be mended to form two complete bifaces. The largest biface (Figure 7:5) was cross-mended from two roughly equally sized fragments which were found 5.5 metres apart in the Level 2 deposits. This biface snapped during the early stages of the bifacial thinning process when a blow was inadvertently struck too deep into the body of the biface. A large thinning flake was removed, however the biface fragmented along the axis of blow. Given its size and shape, as well as an extremely flat profile, this biface is almost certainly an early stage preform for a Kirk Corner-Notched point.

The second biface (Figure 7:6), cross mended from two fragments recovered one metre apart in the Level 2 deposits, provides a more refined example of a Kirk Corner-Notched point preform. The tip of this biface snapped off during the final stages of bifacial thinning. This biface appears to have otherwise been completely finished with the exception of notching and serration.

The third biface fragment consists of a large tip segment, similar in form to the larger, refitted biface. It should also be noted that the tip of a thin, flat, well manufactured biface was also recovered during the 1996 Stage 3 investigations.

Table 1: Metric and Non-Metric Data on Lithic Tools

Provenience	Level	Depth	Cat.#	Type	Chert	Length	Width	Thickness	Base Width	Comments	Figure
205E-620N:24	pz	0-20	63	drill	Onondaga	*	*	5.8	18.4	base	7:9
205E-620N:24c	2	0-10	137	projectile	Onondaga	46.9	16.1	7.8	*	Late Archaic	7:4
210E-620N:7b	2	0-10	162	projectile	Onondaga	*	*	*	16.8	Early Archaic	na
205E-620N:18d	3	0-25	139	projectile	Onondaga	*	33.8	8	*	Early Archaic	7:1
205E-625N:9	pz	0-28	136	projectile	Onondaga	*	14.9	6.3	10.3	Late Archaic	7:3
210E-620N:22	pz	0-27	102	projectile	Selkirk	*	24.8	6.9	16.9	Early Archaic	7:2
205E-620N:10a	3	0-30	225	scraper	Onondaga	31.8	22.1	7.9	na		7:7
210E-620N:16	pz	0-25	96	scraper	Onondaga	40.3	20.1	6.3	na	both sides	7:8
210E-620N:23	pz	0-20	104	scraper	Onondaga	33.8	25.8	11.2	na		na
205E-620N:25d	2	0-10	158	biface	Onondaga	*	*	8.2	na		na
205E-620N:3d	2	0-10	183	biface	Onondaga	49.2	33.8	5.8	na	Early Archaic	7:6
210E-620N:10a	2	0-10	209	biface	Onondaga	60.1	38.2	9.2	na	Early Archaic	7:5
210E-620N:17b	2	0-10	215	biface	Onondaga	*	*	8.9		tip	na

Figure 3: Distribution of Ploughzone Chipping Detritus

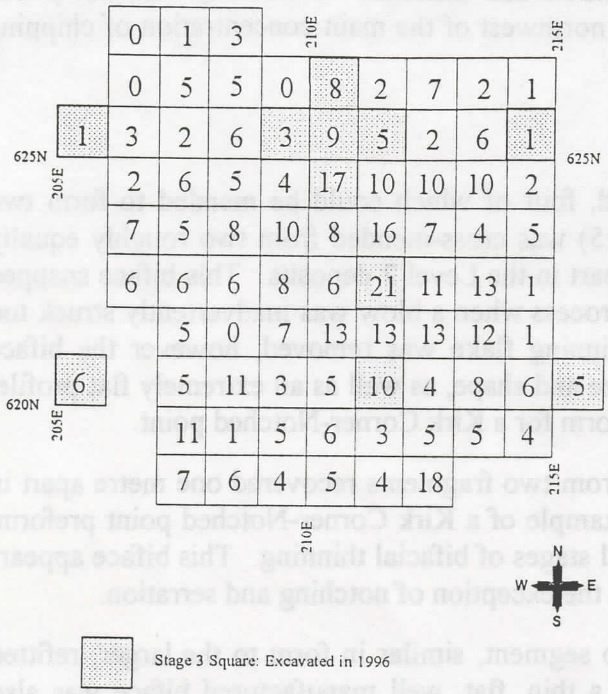


Figure 4: Distribution of Level 2 Chipping Detritus

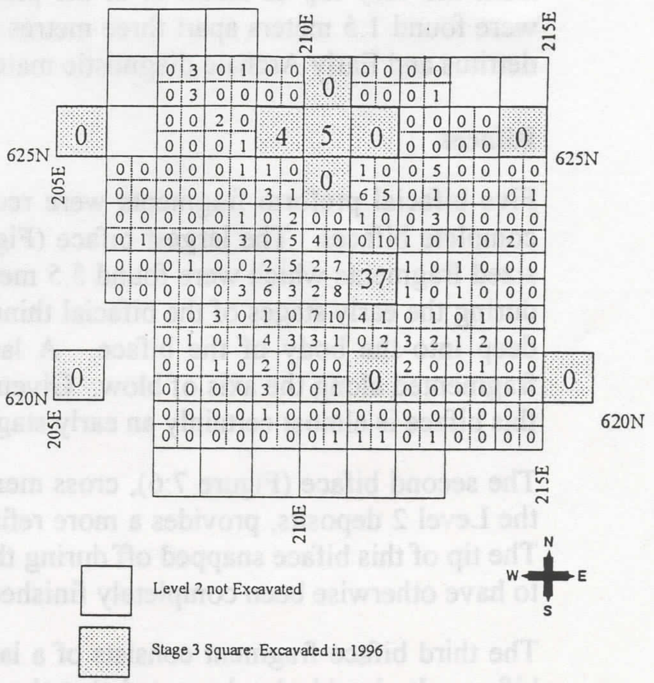


Figure 5: Distribution of Level 3 Chipping Detritus

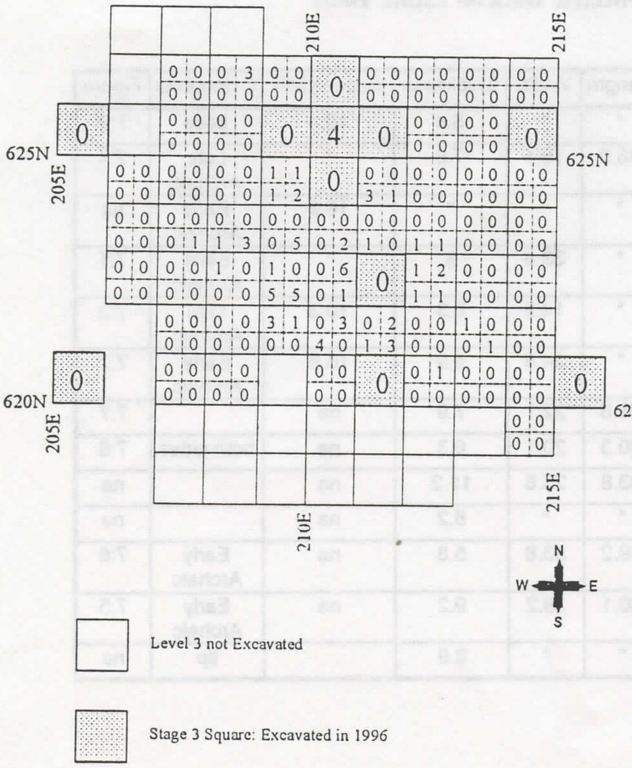
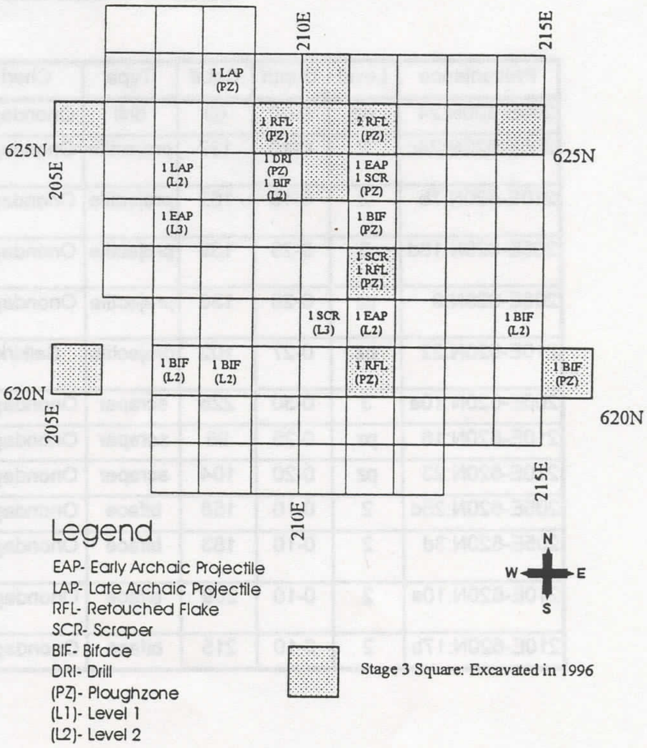


Figure 6: Distribution of Formal and Informal Tools



Legend
EAP- Early Archaic Projectile
LAP- Late Archaic Projectile
RFL- Retouched Flake
SCR- Scraper
BIF- Biface
DRI- Drill
(PZ)- Ploughzone
(L1)- Level 1
(L2)- Level 2

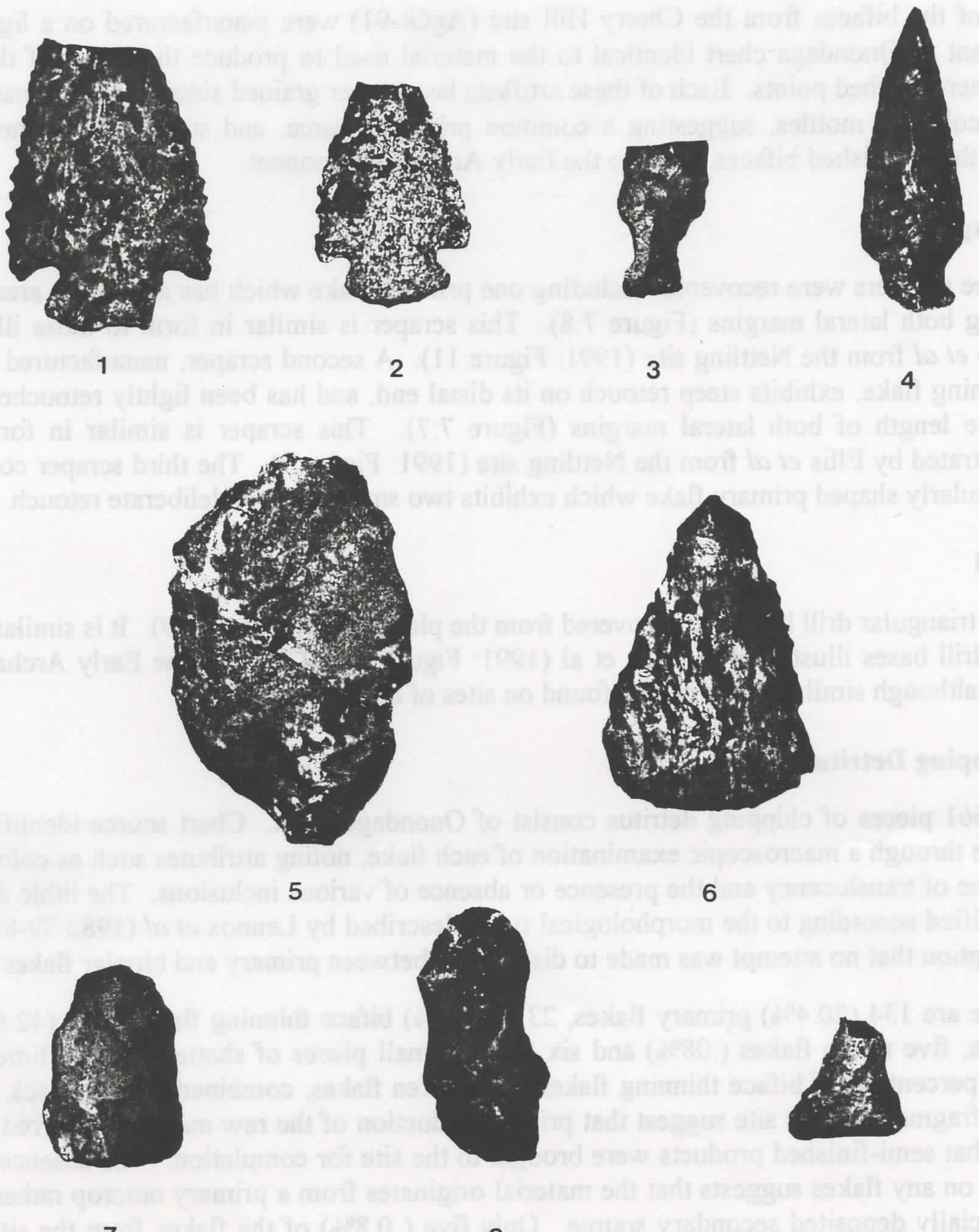


Figure 7: Lithic Tools from the Cherry Hill Site

All of the bifaces from the Cherry Hill site (AgGt-91) were manufactured on a light coloured variant of Onondaga chert identical to the material used to produce the larger of the two Kirk Corner-Notched points. Each of these artifacts has pepper grained sized, black inclusions in their tan coloured mottles, suggesting a common primary source, and strengthening the suggestion that the unfinished bifaces relate to the Early Archaic component.

Scrapers

Three scrapers were recovered, including one primary flake which has a concave area of retouch along both lateral margins (Figure 7:8). This scraper is similar in form to those illustrated by Ellis *et al* from the Nettling site (1991: Figure 11). A second scraper, manufactured on a biface thinning flake, exhibits steep retouch on its distal end, and has been lightly retouched along the entire length of both lateral margins (Figure 7:7). This scraper is similar in form to those illustrated by Ellis *et al* from the Nettling site (1991: Figure 9). The third scraper consists of an irregularly shaped primary flake which exhibits two small areas of deliberate retouch.

Drill

One triangular drill base was recovered from the ploughzone (Figure 7:9). It is similar in form to the drill bases illustrated by Ellis et al (1991: Figure 6, A-C)) from the Early Archaic Nettling site, although similar forms can be found on sites of other time periods.

Chipping Detritus

All 661 pieces of chipping detritus consist of Onondaga chert. Chert source identification was made through a macroscopic examination of each flake, noting attributes such as colour, texture, degree of translucency and the presence or absence of various inclusions. The lithic detritus was classified according to the morphological types described by Lennox *et al* (1986:79-80), with the exception that no attempt was made to distinguish between primary and bipolar flakes.

There are 134 (20.4%) primary flakes, 233 (35.3%) biface thinning flakes, 283 (42.6%) broken flakes, five micro flakes (.08%) and six (0.9%) small pieces of shatter (<15 millimeters). The high percentage of biface thinning flakes and broken flakes, combined with the lack of cores or core fragments at the site suggest that primary reduction of the raw material occurred elsewhere, and that semi-finished products were brought to the site for completion. The absence of cortical rinds on any flakes suggests that the material originates from a primary outcrop rather than from a glacially deposited secondary source. Only five (0.8%) of the flakes from the site had been thermally altered.

Table 2: Chipping Detritus Analysis Summary

	Primary	Secondary	Broken	Micro	Shatter	Total
Level 1	91	119	183	5	6	404
Level 2	32	78	75	0	0	185
Level 3	11	36	25	0	0	72
Total	134	233	283	5	6	661
% of total	20.4	35.3	42.6	0.8	0.9	100

It seems likely that the majority of the flakes from the site relate to the Early Archaic component, especially the flakes recovered from Levels 2 and 3. The deepest that either of the two Lamoka diagnostics was collected was from the top centimeter of Level 2. Beneath this point only Early Archaic diagnostics were recovered. Moreover, most of the chipping debitage consists of the same light coloured variety of Onondaga chert from which the diagnostic Early Archaic tools were manufactured, and as was noted even during the Stage 3 testing, the majority of the biface thinning and broken flakes were struck off broad, thin bifaces. This argues strongly for them being related to the Kirk Corner-Notched Horizon component.

Interpretations

Until recently it was believed that the lower Great Lakes area was only sparsely inhabited during the Early Archaic periods (Fitting 1968; Ritchie 1979). As recently as 1979 Ritchie (1979:14-15) suggested that "it would seem that early Paleo-Indian remains are much more numerous than those of either the late Paleo Indian or Early Archaic periods". Both Fitting (1968) and Ritchie (1979) suggested that the reason for this apparent lack of cultural materials from the Early Archaic could be attributed to the heavy pine forest cover, which they believed reached its climax around 7,000 B.C.. Ritchie (1979) in particular, argues that the "most logical explanation to account for meager traces of late Paleo-Indian and Early Archaic occupation in upstate New York and adjacent portions of New England is the probable low carrying capacities of the forests of this region for the food animals required by the primarily hunting bands of this time".

Ritchie and Fitting believed that the northern limit of intensive Early Archaic manifestations in the east was located in the Carolinian-like forests of Virginia and South Carolina, and along a thin coastal strip of benevolent deciduous forest extended as far north as Staten Island. They suggested that the Great Lakes area would have been repopulated from the south close to the end of the Early Archaic period with the local emergence of a broad leaf forest environment.

J.V. Wright (1978) and Trubowitz (1979) were two of the first researchers to question the Ritchie/Fitting hypothesis. In 1979 Trubowitz pointed out that the previous ten years of research in New York State had witnessed a much greater degree of recognition of Early Archaic materials. Trubowitz traced this increase in recognition to the publication of Broyles' 1971 report on the St. Albans site, located in West Virginia. This report contained a dated sequence of Early Archaic projectile points which led to the realization that many previously untyped points from collections in New York State were Early Archaic in origin. Similar conclusions have been drawn by researchers working in other parts of the northeast, including Ontario, where it is now recognized that Early Archaic material is much more commonly encountered in surface surveys than are early Paleo-Indian materials (Roberts 1988; Wright 1978; Ellis *et al* 1991).

Not surprisingly, given the increased recognition of Early Archaic materials throughout the northeast, questions have arisen concerning the nature of subsistence behavior during this time period (Nichols 1987; Meltzer and Smith 1986; Ellis *et al* 1991). Recent research has taken into consideration new paleo-environmental data which indicate that the northeastern forests may have been much more diversified in terms of floral and faunal species than indicated by the

Ritchie/Fitting hypothesis. These studies suggest that temperature values were similar to those of today and that the primarily coniferous forest would have contained an increasing array of deciduous species.

Nichols (1987) suggests that in Great Lakes region there would have been a wide variety of dynamic localized landscape features associated with reduced lake levels, most of which would have been conducive to human occupation. During the time of the Early Archaic occupation of the Cherry Hill site there was a series of smaller lakes in the Erie basin and the western end of Lake Ontario terminated just south of Toronto (Karrow and Warner 1991:19). Ellis *et al* (1991:25) point out that at that time southwestern Ontario was

> not simply a 'boreal forest'. A number of hardwood species and especially oak, seem well represented in the pollen spectra and were probably a significant and increasing presence in the forests of the time.

Unfortunately for our understanding of the Great Lakes region, almost all known Early Archaic sites with preserved faunal material are located in the Midwest or Southeast.

One of the most informative recent additions to the Early Archaic literature for the Great Lakes region came with the publication of the Nettling site surface collection report (Ellis *et al* 1991). This large Early Archaic site, located southwest of London, has produced a series of over 1000 Kirk Corner-Notched Horizon artifacts, including projectiles, preforms, and other chipped and ground lithic tools from two loci covering an area of 1400 square metres. It would appear this site was used repeatedly over a period of many years, and several tool types not found at the Cherry Hill site were recovered, including celts, tubular atlatl weights, abraders, large trianguloid bifaces, wedges, and various scraper, denticulate, borer and graver forms (Ellis *et al* 1991:5). The chipping debitage from the Nettling site also differs from the Cherry Hill site collection in that there is evidence that the entire lithic tool production sequence was taking place at the Nettling site. Cores and blocky fragments, which were absent from the Cherry Hill site are common, along with decortication and core trimming (primary) flakes.

It seems likely that the Early Archaic occupation of the Cherry Hill site (AgGt-91) site was quite brief, perhaps lasting no more than several days. The preponderance of secondary and broken flakes suggests that the early stages of biface manufacture had taken place elsewhere. It appears that these semi-finished bifaces were being finished at the site to replace projectiles that had been broken during hunting. This hypothesis is supported by the presence of the two discarded projectiles with tip impact fractures, and the presence of the preforms broken in the process of thinning.

The presence of the drill and three scrapers indicate that the site was not solely used as a flint knapping station. These tools would have been utilized during other manufacturing activities such as food preparation or possibly for elements of bone or wooden tool production. The presence of the five heat altered flakes indicates that there was a hearth at the site. The recovery of the two Lamoka points suggests that this area was used by other groups, although it is felt that the majority of the items recovered from this small ten by ten metre area relate to the Kirk Corner-Notched Horizon component.

With very little known about the settlement and subsistence strategies during the Early Archaic period, the Cherry Hill site (AgGt-91) provides a welcome look at what appears to have been a briefly occupied camp. As more of these sites are studied our understanding of this important time period should rapidly improve.

Acknowledgements

The Cherry Hill site excavations were conducted by Mayer Heritage Consultants Inc. Preparation of this report was facilitated by Kevin Mitchell of TCG Materials Limited. Owen Lonsdale, Matthew Christianson and Ernie Salva ably assisted with the excavation, while Lorelyn Giese supervised the artifact processing.

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